150ACDRS_S Series

150W - Single Output AC-DC Converter - Universal Input - Isolated & Regulated Industrial DIN Rail Power Supply



AC-DC Converter 150 Watt

- **Universal 85-264VAC (277VAC available) or 120-370VDC (390VDC available) input**
- **Withstand 300VAC surge input for 5s**
- **Operating ambient temperature range: -30°C to +70°C (can be start-up at -40°C)**
- **High I/O isolation test voltage up to 4000VAC (Input - output)**
- **Over-voltage class III (Designed to meet EN61558 standards)**
- **Low standby power consumption, low ripple & noise**
- **High efficiency, high reliability**
- **Output short circuit, over-current, over-voltage over-temperature protection**
- **Designed to meet UL/EN/ IEC62368, IEC/EN60335, IEC61558, UL61010 standards**
- **DIN rail TS35X7.5/ TS35X15 mountable**
- **Ultra-thin design: width 105mm (6SU)**

The 150ACDRS_S series is featuring a cost-effective, energy efficient solution for standard DIN-rail mounting. The product offer a high level of stability and immunity to noise, compliant with international IEC62368 standards for EMC and safety sepecifitions meet IEC/EN61000-4, CISPR32, EN55032, UL/EN/IEC62368, IEC/EN60335, IEC61558, UL61010. These light weight AC-DC converters also have an extremely compact design for space saving and are ideal for applications such as industrial control equipment machinery and all kinds of applications in a harsh environment.

Common specifications

Short circut protection:	Hiccup, continuous, self-recovery
Operation temperature range:	-30°C~+70°C
Storage temperature range:	-40°C ~+85°C
Storage humidity range:	< 95 %RH
Operating Altitude:	2000m
Power Derating:	-40°C to 70°C 2.0 %/°C min 85VAC - 100VAC • 12V/15V 1.1 %/VAC min • 24V/48V 0.784 %/VAC min 100VAC - 120VAC • 12V 122.4 W • 15V 128.3 W • 24V 127.4 W • 48V 130.6 W
Safety standards:	UL/EN/IEC62368, EN/IEC60335, IEC61558, UL61010
Safety Class:	CLASS II
MTBF(MIL-HDBK-217F@25°C):	>300,000 hours
Case material:	Plastic, heat-resistant (UL94V-0)
Cooling:	Free air convection
Dimensions:	105.00 x 90.00 x 55.40 mm
Weight:	330g Typ.

Input specifications

Item	Test conditions	Min	Typ	Max	Units
Input Voltage Range	AC input DC input	85 120		264 370	VAC VDC
Input Frequency		47		63	Hz
Input Current	115VAC 230VAC			3.0 1.8	A A
Inrush Current	115VAC 230VAC		35 70		A A
Leakage Current	264VAC		0.5mA RMS max.		
Hot Plug	Unavailable				

Isolation specifications

Item	Test condition	Min	Typ	Max	Units
Isolation Test (Input - Output)	Electric Strength Test for 1min., (leakage current°C 5mA)	4000			VAC

Example:
150ACDRS_48S
150 = 150 Watts; AC = AC-DC; DR = Din Rail; S = Case style;
48 = 48Vout; S = Single Output

Output specifications

Item	Test conditions	Min	Typ	Max	Units
Output voltage accuracy (0% - 100% load)	• 12V Output • Other output			±2 ±1	% %
Line regulation	Rated load			±1	%
Load regulation	230VAC			±1	%
Ripple & Noise* (peak-to-peak value)	20MHz bandwidth • 12V Output • 15V Output • 24V Output • 48V Output			 100 120 150 150	 mV mV mV mV
Temperature coefficient			±0.03		%/°C
Stand-by power consumption	230VAC Input • 12/15/24V Output • 48V Output			 0.30 0.40	 W W
Switching frequency			65		KHz
Minimum Load		0			%
Start-up delay time	Room temperature		500	800	ms
Hold-up Time	115VAC 230VAC		15 80		ms ms

* The "twisted pair-wire method" is used for ripple and noise test.

Protection specifications

Over-current Protection	≥105% Io, self-recovery • Hiccup mode or constant current limiting when output voltage <50%, recovers automatically afterfault condition is removed • Constant current limiting within 50% -100% rated output voltage, recovers automatically after fault condition is removed	
Over-voltage protection	12V Output 15V Output 24V Output 48V Output	≤16V (Output voltage clamp or hiccup) ≤23V (Output voltage clamp or hiccup) ≤35V (Output voltage clamp or hiccup) ≤60V (Output voltage clamp or hiccup)
Over-temperature Protection	Over-temperature Protection Activation Over-temperature Protection Deactivation	85 °C Max. 50 °C Min.

Note:

1. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta = 25°C, humidity <75% with nominal input voltage and rated output load;
2. All index testing methods in this datasheet are based on our company corporate standards;
3. We can provide product customization service, please contact our technicians directly for specific information;
4. Specifications are subject to change without prior notice.
5. Products are related to laws and regulations: see „Features" and „EMC";
6. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

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Industrial DIN Rail Power Supply

EMC specifications				
Emissions	CE	CISPR32/EN55032	CLASS B	
Emissions	RE	CISPR32/EN55032	CLASS B	
Emissions	Harmonic current *	IEC/EN61000-3-2	CLASS A	
Immunity	ESD	IEC/EN61000-4-2	Contact ±4KV/Air ±8KV	Perf. Criteria A
Immunity	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
Immunity	EFT	IEC/EN61000-4-4	±4KV	perf. Criteria B
Immunity	Surge	IEC/EN61000-4-5	line to line ±2KV	perf. Criteria A
Immunity	CS	IEC/EN61000-4-6	10Vr.m.s	perf. Criteria A
Immunity	Voltage dips, short interruptions and voltage variations immunity	IEC/EN61000-4-11	0%, 70%	perf. Criteria A

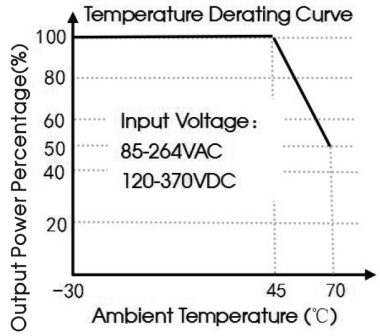
Note: * Test harmonic current at 70% load.

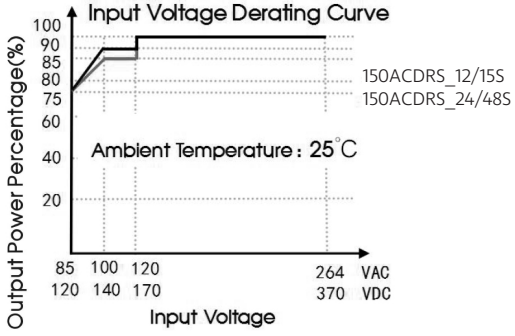
Product Selection Guide

Approval	Part Number	Power [W]	Output [Vo, VDC]	Rated Current [A]	Output Voltage Adjustable [Range, V]*	Efficiency at 230VAC [%, Typ.]	Capacitive Load [µF, Max.]
	150ACDRS_12S	135.6	12V	11.3A	10.8-13.8	89	10000
	150ACDRS_15S	142.5	15V	9.5A	13.5-18.0	89.5	8000
	150ACDRS_24S	150	24V	6.25A	21.6-29.0	91.5	5000
	150ACDRS_48S	153.6	48V	3.2A	43.2-52.8	91	2400

* The actual adjustment range may extend outside the values stated, care should be exercised to ensure that the output voltage and power levels remain within the published maximum values.

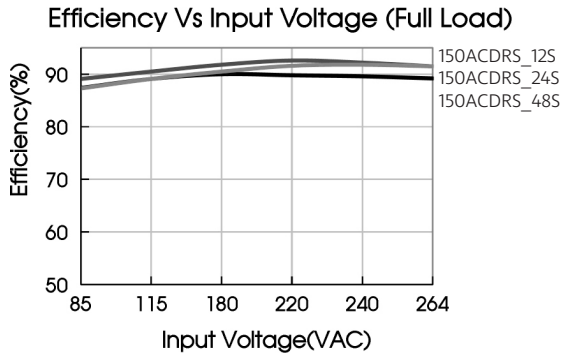
Typical characteristics

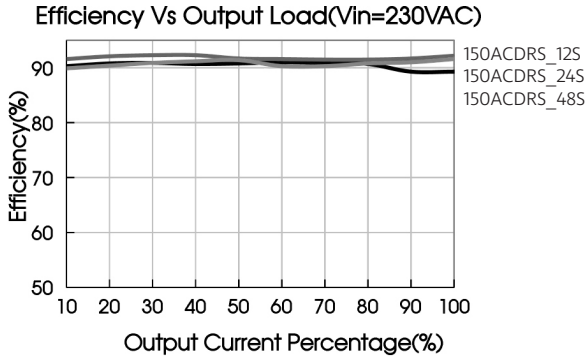




Note:
1. With an AC input between 85-100VAC and a DC input between 120-170VDC, the output power must be derated as per temperature derating curves;
2. This product is suitable for applications using natural air cooling; for applications in closed environment please consult factory or one of our FAE.

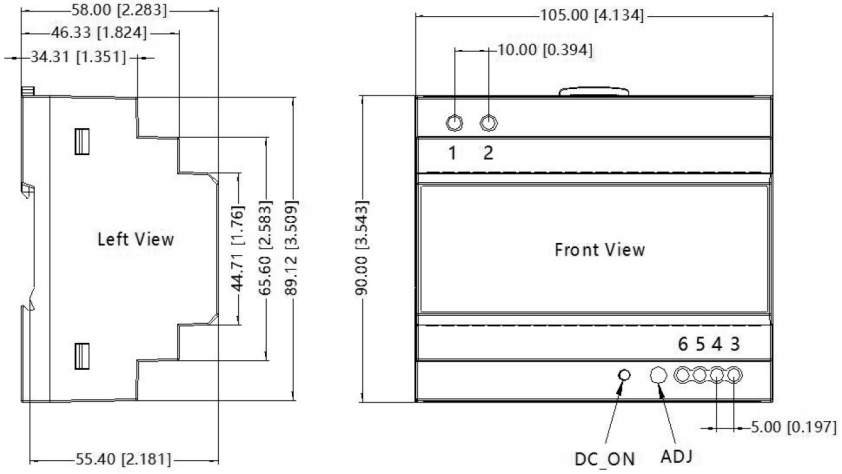
Efficiency





Mechanical dimensions

THIRD ANGLE PROJECTION



Pin-Out	
Pin	Mark
1	AC(L)
2	AC(N)
3	-Vo
4	-Vo
5	+Vo
6	+Vo

Note:
Unit: mm[inch]
ADJ: adjustable resistance to change output voltage
Wire range: 24-12 AWG
Tightening torque: Max 0.4 N·m
Mounting rail: TS35
General tolerances: ±1.00[±0.039]